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ABSTRACT

Until 1978, academic and administrative departments at College of DuPage, an Illinois community college, bought computer related equipment and software without an overall plan or coordination. The development of a coordination plan focused on finding an internal mechanism to solve two problems: individual departments buying computer-related products, and inability to predict accurately each computer-related t'me needed in the course of an eight-year period. A formal long-range plan was developed that described the mission, philosophy, goals, and history of the college and the computer services section, and discussed computing industry trends. It concluded that the college's best course of action was to invest in commercially developed and maintained software rather than a larger staff. Both maxicomputer and minicomputer systems of varied types and brands comprise the current college system. Other features of the plan include computer awareness training for staff, a monthly newsletter, and a microcomputer laboratory to allow faculty to experiment with hardware and software. Areas of benefit to the college found in the planning process included awareness throughout the institution of the need for planning, campus-wide compatibility for interconnection to maxicomputers and microcomputers on campus and within the national educational computer network (EDUNET), ease in problem determination, ease in coordinating maintenance, and institutional awareness of what's happening at the department levels. (MSE)

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Developing a Computer Literate Faculty At College of DuPage

Bart Carlson, College of DuPage

INTRODUCTION

College of DuPage is a comprehensive community college established in 1966 in ten high school districts of Chicago, Illinois. Since 1967, student enrollment has grown from fewer than 3,000 students to more than 26,000 students. The College offers a variety of programs that include the first two years of baccalaureate education, career education, general studies, community education, and public service activities.

The main campus is located in Glen Ellyn, Illinois; but classes are also held in over 50 locations throughout the county to provide greater accessibility to the College by district residents.

Computer Services

Computing at College of DuPage began with an IBM 360/30 maxi-computer in a trailer in 1967 and progressed to a position of leadership in higher education terminal based administrative systems in the 70's. Much of the development of on-line systems was sparked by a grant to develop an interactive terminal based counseling program (CVIS — Counseling and Vocational Information System). This terminal communication system was the base from which the registration, financial accounting,

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library, and other administrative systems were developed. Computer Services is managed by the Computer Services Management Committee (CSMC). Membership on the CSMC consists of the president, the two provosts and the three vice presidents. The CSMC, which has direct line responsibility for Computer Services (as well as for all other functions in the institution simply because of their collective individual positions within the institution), meets once a month.

Two other advisory committees are also included in this management model. The Academic Computing Users Advisory Committee, which also meets monthly, consists of a mixture of academic faculty and academic administration. As its name implies it focuses on the computing resources which primarily support faculty and students. A third committee focuses primarily on administrative users of computing and is called the Administrative Systems Users Advisory Committee.

During the 70's the institution continued to expand, as did demands on the CVIS system. Academic uses of computers however, was limited primarily to supporting the data processing curriculum (and computer science). This to the proverbial "chicken and egg" syndrome. Whatever the cause/effect, it was important, however, that academic use be planned for in the future. In 1978, the administration recognized the need for an overall master plan for long-range computer services.

Memorandum of Opinion

Up until the fall of 1978, academic and administrative departments were buying computer related equipment and software items without any overall plan or coordination. This practice was prolific because the technological advances being made in the industry pushed prices to new all-time low levels. A department could acquire a terminal, microcomputer, or minicomputer for only a few hundred to a few thousand dollars.

As the college began to develop an overall plan, it became clear that an eight-year plan could not be developed which would encompass every possible future use of micro- and mini-

processor technology. This included security systems, typesetting machines, voice telephones systems, microcomputers, minicomputers, and text or word processing systems among many others. Since individual departments were continuing to acquire computer related equipment and software as the development of the long-range plan progressed, Computer Services became increasingly concerned that items being acquired now may not be compatible with the overall direction the institution would be choosing for the next decade. Immediately a search began for an internal mechanism or procedure which would solve both problems, i.e., individual departments buying computer related items without overall coordination and the inability to spell out every item which computer technology might penetrate in the next eight years.

After considering a number of alternatives, a decision was made to submit a formal recommendation to the Computer Service Management Committee for their review, consideration, and approval. The recommendation, entitled "Coordination of Instructional and Administrative Computer Related Equipment and Software Acquisitions," is listed below in its entirety.

Recommendations:

> CSMC hereby creates the administrative policy requiring that all computer related equipment and software acquisitions be formally reviewed in writing via a "memorandum of opinion" by Computer Serices prior to acquisition and that said policy be monitored and enforced by the C/D Purchasing Department, Final approval of said acquisitions will rest with the CSMC.

This policy recommendation was approved in December 1978, and the College of DuPage has continued to operate under its guidance and direction since that time.

Another issue of importance which was discussed was whether or not an item price level should be included or excluded from the policy. It was decided that the policy should be all encompassing, and that if experience demonstrated that it needed to be refined, it could be modified at a later date.

The recommendation was fairly well received and had some interesting results. However, as is often the case with any change of this magnitude, some "period of adjustment" and "tuning" in the process was necessary. Since the policy was implemented in mid-year, literally months after the individual departments had budgets "approved" at the highest level, it was a shock for some of them to find out they needed to go through a new level of review, justification, and approval. This, however, was only a start-up problem during the first year. For the second year, this review was tied in prior to budget "approval" at the highest level, and therefore the "memorandum of opinion" process was in the budget preparation cycle where it belongs.

Long-Range Computer Services Master Plan

In the spring of 1979, Computer Services staff developed a formal long-range plan for review by the Computer Services Management Committee. This plan described the mission, philosophy, goals and history of both College of DuPage and Computer Services, and discussed computing industry trends. The plan included detailed sections on functional requirements for both academic computing and administrative systems, a technical plan for computing hardware and software (showing several alternatives), and a financial plan.

The long-range plan was approved in June 1979 by the Computer Services Management Committee and the Board of Trustees. Implementation of the plan began almost immediately.

Of particular interest was the section on industry trends relating to hardware, software, and staffing. These sections concluded that, for College of DuPage, the best course of action was to invest in commercially developed and maintained software

rather than in a larger staff. As a result of this conclusion, the Computer Services Department has a very competent but small staff of 17 people.

Computer Hardware and Software

The current hardware at College of DuPage includes an IBM 370/138 maxi-computer for administrative systems and some academic computing (an IBM 4341 is on order for December 1980), a Hewlett-Packard 3000 minicomputer for academic computing, and a DEC 11/34 minicomputer for the CLSI system for the Library Computer Services also operates an NCS-7008 minicomputer based optical mark reader.

In addition to local hardware, College of DuPage also uses the PLATO System at the University of Illinois, the EDUNET Network, the OCLC Library Network, and MDSI in Ann Arbor, Michigan.

Recognizing the increased role of microcomputers in education, Computer Services has recently acquired over fifty Radio Shack TRS-80's, Apple II's, Commodore Pets, and a Texas Instrument 99/4 among others. Many of these fifty plus microcomputers and over one hundred terminals are connected to the minicomputers and maxicomputer described above. Many are hard wired but some have dial-up capabilities.

Of particular interest is the use of numerous Lear-Sieglar ADM 3A CRT terminals which can dial-up all of the systems described above. In addition to being just an asynchronous terminal, they can access the IBM 370 maxi-computer in an "IBM 3270 mode" via a protocol converter box located at the central computer site. It allows use of all the hundreds of programs which were written to support the IBM 3270 terminals only.

Computer Awareness Training for Staff (CATS)

As implementation of the plan began, it became readily apparent that a series of short courses for faculty, administra-

tion, and staff were needed. The objectives of three courses would be to increase general awareness of computers and their capabilities and to broaden the skills of current and potential users. The teaching techniques would include lectures, "hands-on" experience, and self study methods.

The responsibility for developing a training program was assigned to the Academic Computing Department in Computer Services. Since it appeared that this area could better tune in on the needs of faculty as well as other college staff.

The CATS program has a course catalog indicating course names, course numbers, course descriptions, course objectives, course syllabus, and course pre-requisites. Several alternate paths of instruction can be selected depending on the unique needs and interests of the user. However, all users are required to start with the Introduction to Computer Services Facilities and Resources, a six contract hour course offered on two separate days which like all of CATS courses, can be taken by faculty for credit on the salary schedule. Whether a course is taken for credit or not, each completer receives a certificate of completion signed by the instructor and the Director of Computer Services.

A schedule of courses to be developed should keep interested persons involved. Two new courses being implemented during fall term 1980 are Introduction to the PANVALET Editor and Basic programming.

Monthly Newsletter

The task of keeping a large, diverse, and unique user community informed on a timely basis has historically been a challenge for many colleges the size of C/D or larger. C/D, with its adoption and subsequent implementation of the Long-Range Computer Services Master Plan, found itself in a very similar position primarily because of two factors:

1. The long-range plan in its comprehensive approach dealt with, for the first time at C/D, academic computing

needs beyond the traditional data processing courses. In addition, the long-range plan expanded the administrative uses of computing resources into new and smaller areas of the college, areas which, for the most part, had not previously seen much usage. Unfortunately, the old approach of walking down the hall and telling a handful of people or sending out a memo to a few more with the news of a new procedure or change was no longer a viable method for keeping users informed. This expansion to a new community of inexperienced users required a whole new approach.

2. The long-range plan also broadened the types of computing resources available to the user community at C/D. For the first time the user could select the computing resource appropriate for the task at hand, whether it be one of serveral kinds of microcomputers, or minicomputers, a maxicomputer, or another computer at a distant college. Each of these systems has different and constantly changing systems, compilers, utilities, data bases, operating procedures and sign-on procedures.

In January, 1980, Computer Services began publishing a monthly newsletter to keep its academic and administrative user communities informed on the equipment, software, personnel, operational, procedural, technical, and developmental changes occurring at College of DuPage. Eight months later Computer Services conducted a survey of all newsletter subscribers to determine if the initial objectives were being met. The preliminary results indicate a very positive result. In addition to these results another indicator may be the overwhelming number of requests which have been received from other colleges and universities to be placed on the newsletter mailing list. This list of external organizations receiving the newsletter has already grown to several hundred.

Microcomputer Laboratory

The long-range plan identified as a major goal the philosophy that computing resources should be available at the appropriate level required to accomplish a given task. It employed four distinct levels of computing using microcomputers, minicomputers, maxicomputers, and computers at other distant colleges (EDUNET).

Because microcomputers were determined to be particularly important for the future, a Microcomputer Laboratory was planned. The objective of this lab was to address the "chicken and egg" syndrome which had existed prior to the plan. It hopefully would be a place for faculty to feel, touch, see, and test each of the most popular microcomputers on the market. This lab has a rich inventory of available software developed at other locations throughout the country and a budget enabling faculty to request the acquisition of a particular package so that he or she can examine possibilities for classroom introduction.

Benefits

There have been many benefits from both the Memorandum of Opinion policy and the Long-Range Computer Services Master Plan. The formal review process has resulted in an increased awareness on the part of the departments for planning. Several academic departments have developed long-range plans for the first time. The Secretarial Science Department's Plan called for a whole new curriculum, including a new department name — Office Technologies. Because of this increased focus on planning, the departments are finding it easier to get the resources they need to carry out their respective missions.

A second area of benefit is campus-wide compatibility for interconnection to the mini-and maxicomputers on campus, as well as to the computing resources available through the national educational computer network — EDUNET. Numerous spin-off benefits result from campus-wide compatibility including ease in problem determination of a complex network and

ease in coordinating hardware and software maintenance activities. Finally, the overall institutional planning seems to be enhanced because of the institutional awareness of "what's happening" at the department levels. This has even occurred for items often times not previously considered to be computer related.

This new focus on planning within the instutition has also resulted in the creation of a new Office of Planning. One of the most recent accomplishments of the Office of Planning with the assistance of Computer Services has been to computerize the goals and objectives of all areas in the institution.

In summary, the benefits of the Long Range Computer Services Master Plan seems to even the casual observer to be numerous and far reaching within the institution. It certainly has been most effective in the areas of computing and information systems. It probably has been most effective in enabling the institution to do better overall planning. This has resulted in an institution which has become more successful in carrying out its overall mission, philosophy and goals.

Future

The future for developing a computer literate faculty at College of DuPage is very bright. College of DuPage is very fortunate to have an excellent faculty, administrative, and support staff. In addition, there is a climate of excitement among the academic departments as the faculty continue to prepare for the future by expanding their computer literacy.